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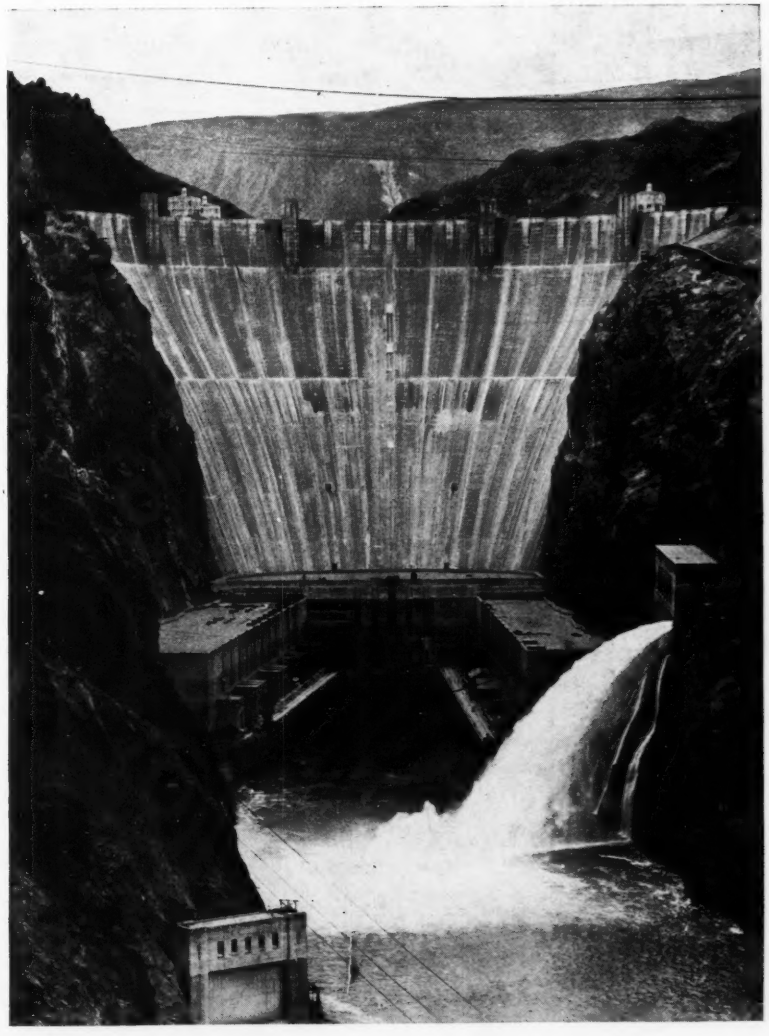

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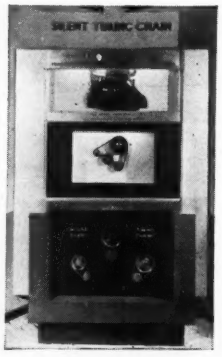
DEAN DEXTER S. KIMBALL -- *A Biography*

Volume I MAY, 1936 Number 8

POWER TRANSMISSION NEWS

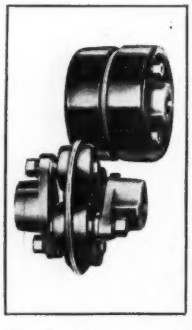
Stroboscope at the World's Fair



To show the slow movement and smooth action of Morse Silent Chains, the stroboscope is used by the Morse Chain Company in the Borg-Warner exhibit in the Travel and Transport Building at the Century of Progress.

New Application of Rubber in Power Transmission

A comparatively new type of flexible coupling is coming into more general use in connecting shafting and is replacing the conventional universal joint where the angular misalignment is not excessive.



The coupling consists of two forged steel hub members mounted on the shafts to be connected. Between these is carried the floating center to which each hub is separately connected through a pair of resilient rubber trunnion blocks. These trunnion blocks, 90° apart, are set under pressure into a two-piece riveted housing of pressed steel. The blocks are molded over and permanently fastened to steel cores, or bushings. These steel cores, in opposite pairs, are rigidly bolted to the end hub members of the coupling.

The especially developed resilient non-cold-flow rubber blocks are responsible for the extreme flexibility of the coupling, providing for greater parallel and angular misalignment than any other coupling. These rubber blocks are all on a common center, equally radial from a common axis, consequently this coupling, at any angle, will run smoothly and true.

This is known as the "Morflex" coupling and is made by the Morse Chain Company, of Ithaca, N. Y. They cite as an example of its efficiency a recent installation, joining a motor and generator. Before this coupling was put on, a semi-universal was in use, which was noisy and apparently absorbed a lot of power, causing the motor to heat badly and causing difficulty with the bearings.

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We have been too busy to prepare our usual Time-Space photograph this month.

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Volume I MAY, 1936 Number 8

COMMENT

Most timely is the article by George R. Shanklin on Flood Control, in which he discusses different methods used in handling this problem at the present time.

* * *

The Dean is somewhat of a myth to many of the students, so Dean Dexter S. Kimball is here presented to the student body. Following this policy, an article, introducing the new Dean, Prof. Herman Diederichs, will be published in the CORNELL ENGINEER in September.

* * *

A most interesting story is told in a reminiscent manner of teaching in China. H. A. Vanderbeek, C.E. '11 is the author.

* * *

For the interest of those people who maintain files of the CORNELL ENGINEER, the last page of this issue contains an index for Volume I.

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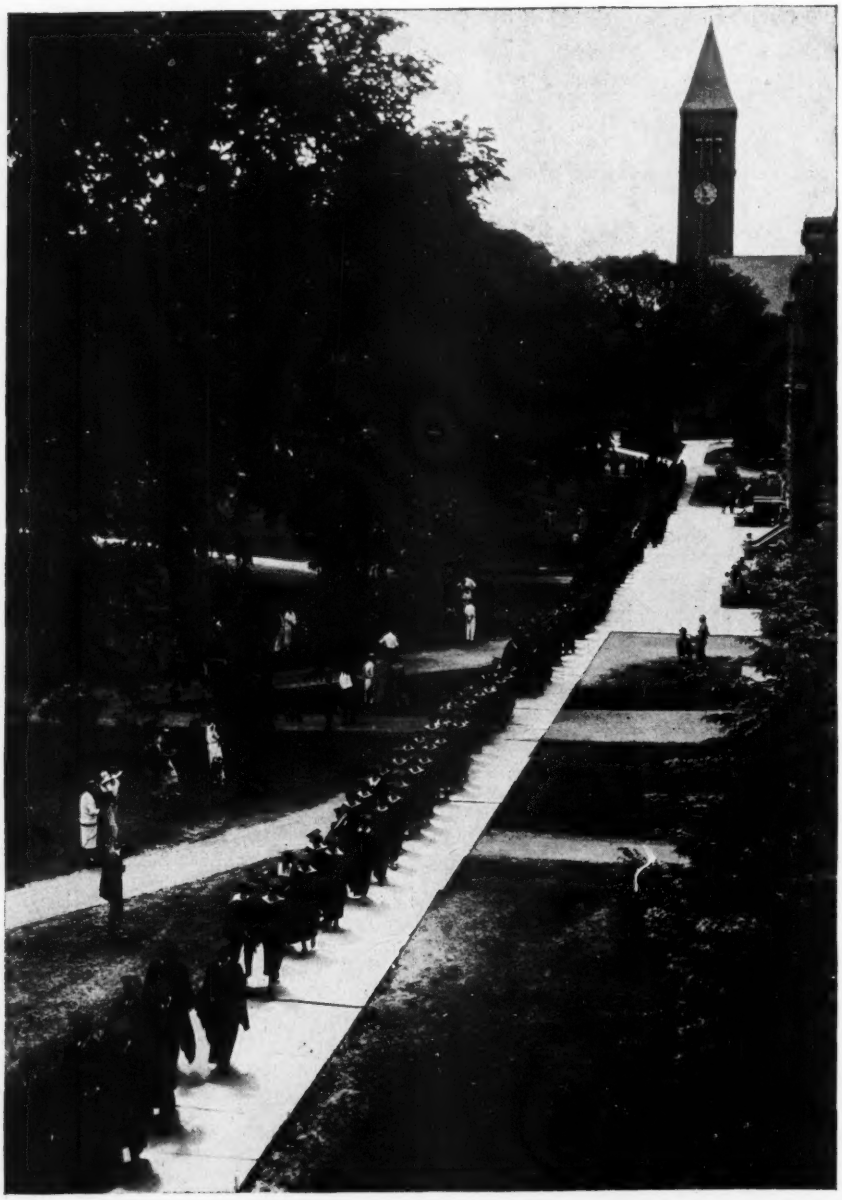


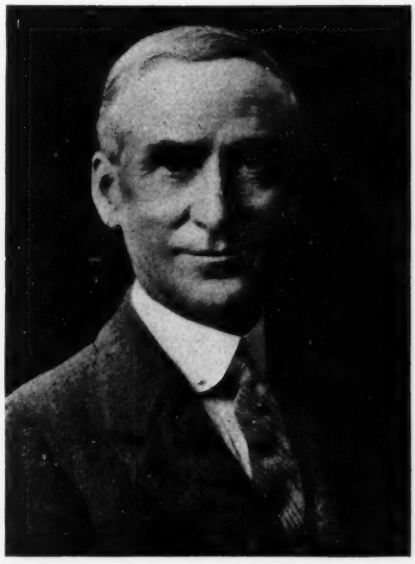
—*Courtesy of Cornell Annuals*

COMMENCEMENT

THE CORNELL ENGINEER

Vol. I May, 1936 No. 8

Dexter S. Kimball



"A friend," says Emerson, "is one who believes you can do a thing when you say you can't." This statement well applies to Dean Kimball—a friend of every student and every faculty member in the College. It is undoubtedly some such disbelief in the existence of insurmountable difficulties which accounts for Dean Kimball's tremendous success as a teacher of men and as dean of an engineering college.

Dexter Simpson Kimball was born in New River, New Brunswick, Canada, on October 21, 1865. At the age of sixteen, he became an apprentice and later a journeyman with Pope and Talbot, at Port Gamble in the State of Washington. In 1887, he started as a machinist in the shops of the Union Iron Works in San Francisco. The broad and practical viewpoint given by these early experiences was of great help to him in his college courses and later life.

He entered Stanford University in 1893, and attained the distinction of completing a four-year A.B. degree in three years. His forte was mathematics, and his fellow students in Encina Hall often turned to him for help in this subject.

After graduation, he returned to the Union Iron Works at San Francisco, where he was employed in the Engineering Department as a designer in mining and marine work. His designs for this company were varied, and often pioneering. The Union Iron Works were constructing at this time the battleship *Oregon,* later made famous in Manila. Among other things, Kimball was required to lay out an hydraulic press larger than any previously built. Later the Union Iron Works constructed some hoisting apparatus from his designs for the Anaconda Mining Company, and in 1898 he became designing engineer for the latter firm. Here his ability to do new things was frequently called into action. At one time, being requested to design a small concrete structure, he objected, saying that he had had no experience in that line. He was told, "Do it anyhow—you at least won't be prejudiced."

After a year with Anaconda, he was asked by Professor Barr of Cornell to come to the University as Assistant Professor of Machine Design. He remained in this position until 1901, when he became works manager of the Stanley Electric Manufacturing Company.

In 1904, Director Smith of Sibley College requested him to return to Cornell as Professor of Machine Design and Construction; and he has remained here since that time. In 1915, he became Professor of Industrial Engineering. Kimball was one of the pioneers in this field, and perhaps his greatest work was done in this line. This course was one of the first of its kind in the country; now every engineering college offers similar work.

He became, in 1920, the first Dean of the combined colleges of engineering. His appointment united under one admisintrative head Cornell's various schools of engineering.

He is the author of six books: *Elements of Machine Design.* written in collaboration with John H. Barr in 1909; *Industrial Education* (1911); *Basic Principles of Industrial Organization* (1913); *Elements of Cost Finding* (1914); *Plant Management* (1915); *and Industrial Economics* (1929). He has written over three hundred technical articles. He talks very effectively, and is in constant demand for speeches of every type. His talks, witty and whimsical, are at the same time technically correct. Some of his phrases are widely quoted. The recent Machine Tool Exhibition in Cleveland used for a theme his phrase, "Machine tools are the Master Tools of Industry." His collection of anecdotes is of particular

interest to students, who are always eager to listen to the Dean.

Besides being an eminent scientist, he has a great love for books, and a highly developed literary taste. He enjoys particularly the work of the poet Burns, whom he frequently quotes. Among his non-technical articles are *Content of a Liberal Education* and *Books and Book Makers.*

His vitality has always been prodigious. In his earlier days in Ithaca, he lived on South Hill, and walked to the campus every morning. A salesman once called to see Kimball at a plant where he was working. A laborer, asked his whereabouts, told the salesman, "If you see a little man with a big mustache going like Hell—that's him." Dean Kimball has the mustache no longer, but he is still in a hurry.

He must have hurried, to get so many things done. His varied and distinguished activities include:

Acting President Cornell University, July 1-Oct. 1, 1918 and also Nov. 1929-Feb. 1930, Member Council on Industrial Education, N. Y. State Department of Education 1911; U. S. Fuel Administrator for Tompkins County 1917-18; Director Training Schools for Army Mechanics, Cornell University 1917-18; Member Board of Visitors, U. S. Naval Academy 1922; Member staff Alexander Hamilton Institute, President of Board of same 1929, Chairman Commission of Rochester Mechanics Institute 1926; Steinmetz Lecturer 1929, Brackett Lecturer, Princeton 1929; Chairman John Fritz Medal Board, presented gold medal to President Hoover 1929; First President of Herbert Hoover Medal Board and presented first Hoover gold medal to President Hoover 1930; Director McGraw-Hill Publishing Co. 1929, Director Ithaca Chamber of Commerce 1929-31; Lecturer Stanford Graduate School of Business 1930; Member H. L. Ganett Medal Board 1929; Member American Society of Mechanical Engineers, President 1921-22; Society for Promotion of Engineering Education, Vice President 1922-23, President 1924; Federated American Engineering Societies, Vice President 1921-22; American Engineering Council President 1926-28; Sigma Xi; Tau Beta Pi, President 1922-23; Phi Kappa Phi, President Cornell Chapter 1930-31; President Ithaca Chamber of Commerce 1935; Awarded Lamme Medal by Society for Promotion of Engineering Education 1933. Awarded Worcester R. Warner Medal by Am. Soc. of Mechanical Engineers 1933.

Now, after sixteen years at the head of the Engineering College, Dean Kimball is going to retire. He will be missed keenly by all connected with the college. He has been an inspiration to everyone who has been privileged to know him. Guiding students with kindly understanding, teaching with keen insight and wisdom, and leading the college with dynamic strength, the Dean has been a principal factor in building our engineering school to the proud position she holds today. The college will seem strange without him, as our hearts are with him.

Flood Control In Progressive Steps

By George R. Shanklin, C.E. '22

In 1929 the State of New Jersey gave the newly created State Water Policy Commission supervision not only over the diversion of surface and underground waters for potable water supply and over the construction of dams, which control had been formerly exercised by its predecessor, but also supervision over the design of all new structures along, over, and in natural streams. The purpose of this new legislation was to reduce flooding by the provision of adequate waterways in all new construction and to coördinate these new structures so as to secure eventually some type of flood control for each stream.

Streams have always been favorite boundary lines between private properties and municipal units. Where the stream is the boundary line, the deeds generally give to individuals the ownership of half of the waterway on non-tidal and non-navigable streams. In congested areas, many owners have tried to increase their usable lands by encroaching upon the natural waterway by either fills or various types of structures, either through ignorance of the required capacity for flood flows or with the hope that their neighbor across the stream would leave his portion of the waterway unmolested. Moreover, in the past, all too often public authorities have constructed bridges, the waterways of which were fixed not by the probable flood run-off but by the amount of money available. As a result of these types of encroachments, in many localities in the metropolitan areas conditions are so bad that ordinary rainfall creates annoying floods which fill cellars, block traffic, and otherwise disrupt the quiet of the local communities.

Since all except the smallest of streams flow through more than one municipality or county, the local authorities are unable to regulate any one stream in its entirety. Moreover, as a rule these municipal and county engineers do not have and cannot afford engineers trained in this type of work. Petty politics also often interfere with the correct and just solution of many of these encroachment problems. For these reasons, the control of this type of work was regulated to a state body, with the construction of improvements left to the local municipalities.

Lack of data and lack of appreciation of the purpose of this work sadly handicapped the efforts of the Commission for the first few years. Very few surveys for any length of the streams were available, and those that did exist were usually on assumed datums which could not be correlated. No record of flood heights or of flood discharges were obtainable except on the very largest streams. The existing U. S. Geological Survey gaging stations were located for the most part on streams with drainage areas of over one hundred square miles, while the majority of the channel improvement projects were along streams of not more than 25 square miles.

Fortunately most of the encroachment applications for the first three years were for bridges in undeveloped sections of the state on which no great detail of information was necessary. During this interval all existing data were collected by this Commission, and studies were being made on the individual streams.

In 1933 channel improvement became very popular as a measure of relief work, since labor forms such a high percentage of the total cost. The work was done in steps, one block at a time. No payment was made for land. The required additional width was obtained either as a gift through an agreement between the municipality and the owners, or through equalizing the benefits to be derived by the owners from this improvement and the cost of the land taken. As might be expected, great difficulty was experienced in the first improvement undertaken by each municipality in obtaining this additional land at no cost and in persuading property owners to permit the improvement to be made through their lands. With each succeeding step, however, this resistance has lessened until now in many municipalities the engineer cannot meet all the demands for channel improvement. As a result of three years work, all of which has been done in small steps, some 20 miles of channels have been improved on small streams in the metropolitan areas. In addition to these actually constructed, 23 miles of channel improvement not yet constructed have been examined and approved by the State Water Policy Commission. The total cost of both the constructed and approved projects is estimated at two million dollars.

The benefits from this type of channel improvement

FIG. 1. BEFORE CONTROL MEASURES WERE TAKEN

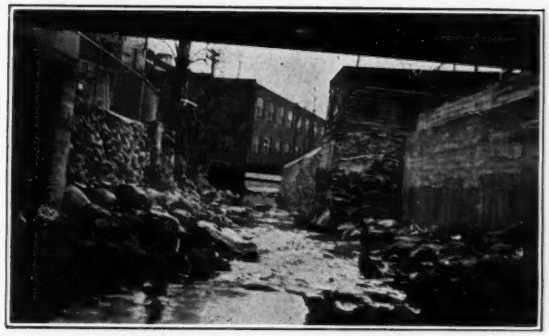


FIG. 2. THE FIRST STEP

are already being derived. During the recent floods the improved channels have carried their flood run-off without trouble. However, these floods were not exceptionally severe on the small watersheds. Since most of the improved channels have a drainage area of less than 10 square miles, the real test will come during the cloudburst season of the year.

Late in 1933, the Commission, realizing that in order to have these piece-meal channel improvement projects fit together correctly and give adequate relief, and because of the reduced engineering staffs of the counties and municipalities these agencies could not provide the necessary surveys, joined with the New Jersey State Department of Commerce and Navigation in sponsoring a Civil Works Administration Stream Survey Project for the purpose of surveying the entire length of the streams on which improvements were planned. These surveys consist of a plan, profile and cross-sections of the natural stream and of all bridges and other structures. The standard scales are 1 inch to 100 feet horizontal to 1 inch to four feet vertical. However, on very congested streams the scales are as large as 1 inch to 40 feet horizontal and 1 inch to two feet vertical. Cross-sections of the natural stream are taken 500 feet apart in open country and at 100 feet or less in developed areas. High water marks are shown whenever such data can be found, and all encroachments are indicated. Since many of the engineers on this work had had little experience in this type of surveying, the work was slow at the start and in some cases had to be revised. However, surveys are now available on 90 percent of the streams and their tributaries in the metropolitan areas, and in the rural areas surveys of the larger streams are fast nearing completion.

In all channel improvement or flood control, two factors must be decided before a design can be made: the size of the flood for which protection is to be provided, and the type of flood control to be adopted. The State Water Policy Commission, by reason of its authority, fixes the minimum size of flood for which the improvement is to be designed. The type of flood control is left to the local authorities, subject to the approval of the Commission.

Sound engineering practice requires that the size of flood for which protection is to be provided should be

determined by a careful analysis of costs and benefits. Since lack of data has made mathematical analysis impossible except in cases where long records were available, an arbitrary schedule of flood frequencies, varying with the size of the drainage area, has been set up based on the practical knowledge of the areas and on reasonable estimates of flood damage to be expected. Frequencies are varied with drainage areas on the theory that the damage from a flood of low frequency is less on small drainage areas due to the short duration of such floods and the small areas affected than on large drainage areas.

The type of flood control may be divided into six groups:

1. *Covered Conduits.* This type includes box culverts, bottom paved and unpaved, and pipe culverts. Due to the high cost of materials, this type is restricted at the present time largely to drainage areas of less than one-half square mile. Their advantages are that they enclose the stream, give the property owners complete use of their land, and relieve the municipality of all trouble in keeping the channel clean.

2. *Open Walled Channels with Dirt Bottom.* This type is probably the cheapest of all types of permanent channel improvement for built-up areas. It is used as the first step of either types Nos. 1 and 3 wherein provision is made to handle present day floods in its design, increasing the capacity by paving the invert in order to handle the larger flood resulting from further development of the watershed. It is ideally suited for relief work when the walls are built of rubble masonry set in cement mortar and using local field stones. As areas developed and land values increase, a roof slab over the walled channel gives property owners full use of their land. The objections to this type are the inability to keep the channel clean of rubbish and junk and to prevent undermining of the walls on curves in the channel alignment.

3. *Open Walled Channel with Paved Invert.* This type is an improvement on type No. 2 but due to the cost of paving has a maximum limit of drainage area on which it can be applied. It is useful in places where the channel width is restricted or where velocities are high. It has the same objection as type No. 2, namely, the inability to keep the channel clean of rubbish and junk.

4. *Earth Channels.* These channels are seldom practical in congested areas because of their large top widths. They are difficult to maintain when velocities are high and are easily encroached upon by adjacent property owners. Their best use is through park areas and in open country.

5. *Park Areas Along Improved Channels.* Wherever possible this type is the most advisable from all angles. The parking of the lands adjacent to streams often permits the construction of a channel of capacity smaller than that of the required flood frequency. It also eliminates the private property owner and helps considerably in keeping the channels clean. Unfortunately, this method can seldom be used for the sections which need it most due to the congested conditions and the high cost of land. The plans of the various park agencies for park drives and playgrounds along both banks of streams are in line with this type of flood control. Since strips of land 100 feet wide are usually reserved along each bank for these drives and playgrounds, there is usually ample room for this type of control.

FIG. 3. COMPLETE CONTROL

6. *Detention Basins.* Whenever physical conditions limit the size of the improved channels to less than that of the required flood frequency, detention basins must be provided to reduce the flood flow to that of the available channel. They may be either of the permanent lake or dry type. Parks, bird preserves, well fields, and swamps are possible sites that may be available in metropolitan areas. Their disadvantages are their cost and the large areas required.

The progress of this encroachment work in New Jersey has been most gratifying. Local authorities are in full agreement with this program of progressive channel improvement. Park agencies assist in the location of detention basins and in the construction of gaging stations on their improved channels. County engineers coöperate in the collection of high water data and in coördinating the activities of their various municipalities. Gradually the private citizens are learning to respect the channels of streams and to demand their improvement where existing conditions are bad.

The writer believes that this progress is due primarily to the success of the progressive step type of channel improvement. During times when most municipalities are buried under debt for local improvements, the progressive step type of channel improvement offers them a "pay-as-you-go" method of eliminating a constant source of trouble. Figures 1, 2, and 3 show the successive conditions on a particular stream, all photographs having been taken from about the same point.

AUTHOR'S NOTE: In the preparation of this paper, valuable assistance was given by Mr. H. T. Critchlow, C.E. '10, who as Engineer in Charge has general supervision of this work, and by Mr. John N. Brooks, who has direct supervision.

My China Adventure

By H. A. Vanderbeek, C.E. '11

Probably all of us recall incidents of childhood when we wondered what lay on the other side of that hill, or that boundary wall. Some of us are ancient enough to have lived in an era when it was not so easy to discover the territory beyond by a simple thumbing method. Perhaps we were forced to start our engineering practice by beginning that excavation which would lead us into the backyard of some Chinese—on the other side of that unbelievably large earth. We knew we would find them standing on their heads and acting similarly. But those are bygone days. We are over those childish fancies and we now live in a world which has shrunk, which presents few frontiers, which is only a neighborhood. We read "The Good Earth" or "North to the Orient"; see "Shanghai", "Oil for the Lamps of China," or "Lady Precious Stream"; attend a Foreign Association luncheon; peruse "Time", or "The American"—and now we know the Orient even if we have not visited the East.

But do we? I have often been startled by the questions asked me. Those conceptions of childhood do persist, even with such an educated group as engineers—trained to recognize things as they are and not as they seem. So the following is an attempt to interpret simply some of my contacts with Chinese. My Chinese adventure extended over a number of years before 1925. It is now history and the glamour has worn off, yet at times I subscribe to the phrase of the 'Old China Hand',—"I wish I were back there again!"

First,—it is very difficult to generalize about China. While China is rapidly shrinking with the advent of highways and air routes, the old strains of origins and customs do not change so quickly. The man from Peiping is different from the man from Canton. The one brings with him the background of the plains and deserts of the North, the other the culture and environment of the South. Second,—China is not saturated with its teeming millions. Some portions are densely crowded, others are almost wilderness. A short while ago I heard of a friend's trip by motorcycle from Soochow to Foochow to hunt tigers. Utterly absurd it seemed to me. Only a few years ago the going was extremely crude between those cities, impossible with a motorcycle. And yet we still have tiger hunts out from Foochow. Third,—China is not in constant rebellion, state of anarchy or political turmoil. Probably the average American reads more of strife and trouble in China than the average Chinese knows of. China's history has been a long series of upsets and changes. Yet the Chinese genius for survival has kept China as a distinct, though loosely bound, entity which has absorbed a conquering force time after time. Fourth,—habits and customs do change. The ways of the West are being absorbed. Some wisely, some otherwise. The strange combinations of East and West in outward appearance are nothing compared to the attempted combinations of Eastern and Western philosophies of life. It is wonderful that Chinese civilization has stood up under the strain of Western impacts.

We Cornellians are international in outlook. My copy of the 1931 Alumni Directory lists 450 Cornellians in China, out of 2,500 abroad and out of a total of 48,800 listed. Of these 45,050 are not Chinese. The chances are that most of us have known one or two Chinese at College, and have carried through the years a rather favorable though somewhat hazy impression of them. Friends say to me, "Yes, I remember Wang of my class. Some sort of a Prince or something. Did you ever meet him?' Possibly so. Princes are rather scarce even in a republic of four hundred million. So here are some impressions of Chinese; none of them princes of the blood, some of them on the economic fringe, but all part of a mosaic which is China.

I went to China to teach Civil Engineering in a Government Engineering College. Considering the limitations of language and type of curriculum, I have no hesitation in saying that the average student was of as high an average intellect as our own group. Some of the men were exceedingly brilliant, even though the other extreme was lower than in American classes. They were studying in a foreign language subjects which were applications of science, and until the recent past the Chinese system of education had little place for science. I must confess that I do not know whether their thought processes were as ours. My impression was that they thought differently, but I never was certain of this. The more abstract the subject the higher the ranking. The greatest source of error in their work was, as might be expected, where perspective and judgment were required. There was no letting down of academic standards in our instruction as graduates came to America and went into graduate courses. Yet, all in all, I can but regret that the curriculum was almost as specialized as our Cornell curriculum, for the demand for Engineers—as Engineers—was not equal to the supply. Some say that with the development of Nationalism and Youth Movements, the time and energy for intense application to study has been lacking. so later students have not been as well trained. That may be. I cannot say.

Chinese as Teachers are the same as the rest of us.

Some "old style teachers" had wonderful results without the use of modern pedagogic methods. Others trained in the most modern methods were not so successful. The classical Chinese teaching method was the lecture system, and the weak point in the younger teachers was a reversion to this method, because of a clear knowledge of applications of their subject matter. The Chinese Educational Associations were alive. Dewey, Munroe and Russell were in China lecturing years ago. Modern testing methods were introduced at an early date. It is quite probable that we, in our school, used a practice system of cooperative groups in our own classes which has not yet been used in America. Work linking up other branches of science, life, and economics was given as part of regular courses in our curriculum. This applied not only to College but to secondary grade work.

Strangely enough, Chinese Engineering antedates Western Engineering. As a matter of fact, at the dawn of authentic history, 2300 B. C., an Engineer, Yu, controlled great woods by working eight years in deepening and extending river channels. A saying, even at the present time, is "We would be fish but for Yu." We all know of the Great Wall, the Grand Canal (built by the sweat and blood of the people about 600 A.D.), the bridges of various types. Yet in so many lines the development was arrested and it is now somewhat strange to see Engineers assuming places of leadership. The development of railroads probably gave the impetus. However, more recently there have been many advances in highways, river and harbor work, water supply, industrial developments, and structural work. A number of projects were laid out by foreign engineers with Chinese assistants who later took over the work. That is the normal way for newly developing territories. It seemed to me that the economics of any particular project were not emphasized because of a lack of background. The engineering analysis was keen, but the ability to check the economic factors was hazy. It must be realized that man-power is still the motive power of engineering works in China and the successful engineer must know how to handle great numbers of unskilled workmen. It is not within the scope of this article to discuss definite projects, which have been described from time to time in the Engineering press.

I recall the men whom I had in classes and pick from them a half dozen silhouettes. There was Chang. In school he was given the nickname equivalent to our "greasy grind." An excellent scholar, very analytical, thorough knowledge of mathematics, quiet, did not enter into many activities. He came to America and become a Doctor of Engineering. He went back to China and when I last heard he was a leading engineering teacher. . . . . Next was Yang, who slipped out of his native Korea under a false identity. A fine boy, clean and likeable. Fair in class. Good athlete. He had a vivid memory of his country's distress and in and out of season tried to persuade us to do something about it—which, unfortunately, we could not do. A radical and a patriot to the point of martyrdom. After we returned we heard from him—then nothing. Quite likely he was caught in the net of Japanesese agents. . . . Then Sung—a second generation engineer—a marked man from the beginning because he brought his father's instruments to school. An excellent student with understanding and balance. He went in with a foreign firm in Shanghai and became head of their large engineering department—a success. . . . Now Woo—an athlete and perhaps a student. Impetuous, likeable, strong. Football, track, baseball his life. Yet he came here on his own resources and earned a Master's degree. He went back to China and combined teaching with coaching. . . . Mao, whose mother was the wage earner. He came of farmer stock, slow student, a hard worker. Before coming to us he had to take time out to earn money—as a rodman and draftsman. While at school he had to work on the side to help pay expenses, but he finally won his degree. A year or so ago he was a draftsman on railroad construction work . . . Yen, an engineer who reformed. He passed his subjects, but his heart was in his art work. He took up with foreign style art; illustrated all the classbooks while in school; went into architecture and is, or was the last I knew, one of China's best architects. . . . Fu—not quite brilliant but approaching it. A friendly talkative boy. He followed me to my next job as assistant, interpreter, manager and adviser, and we were an inseparable team as long as the job lasted. A keen business head, a rough and ready diplomat. He could handle (not by physical means) contractors and workmen, and when we went into business in order to support the school he was invaluable. One of our jobs was to build a new bridge over the Grand Canal, and one can see our names linked with the ages on the name plate. After I came home he went on with the commercial end of the building work and he should be wealthy now for his business goes up into a large figure with a steady 5% profit—and any general contractor will attest to that as a mark of ability. . . . Finally, we have Wang, my most brilliant student, a gentleman and a scholar. He came to America and practiced with a Stell Fabricator—with success. He was my substitute in charge of Civil Engineering when I was on leave and later became President of the College. He went with the Railway Administration, rose to a high position, was China's representative at international engineering conferences, and now is Director and Engineering Chief of a new railroad being constructed in the south. He is a success as an engineer and as a citizen, and several stu-

dents of his type make a teacher feel that life is worth living. And so times marches on! But for the names—which are fictitious anyway—this review sounds like a cross section from the class roll of any of us.

My knowledge of Chinese as pure scientists is limited. Certain problems have been solved and I understand that the patience and carefulness of the Chinese temperament have made them excellent technicians. I do know that as machinists and mechanics they are surprisingly good. One would imagine that it would be difficult for them to become machine minded. Yet to see the Chinese chauffeurs going through Shanghai's crowded streets is eye opening and hair raising. In handling power equipment—such as planers or saws—the mechanic has the tendency to ignore the safety devices and run 'full speed ahead.' In this connection it may be noted that certain Chinese hand tools are more efficient than ours in principle, the plane and drill for example. In the mass production industries, as the textile industry, Chinese men, women and children are just as capable of being part of the machine as we are, and ask less in return as foreign manufacturers have found out.

During our residence in China we lived adjacent to farms and could see some of the best traits of Chinese character as exemplified by the farmer—industry and painstaking care. One writer has written of the "Farmers of Forty Centuries" and it certainly is true that such a designation can only be true if the farmers are part of the soil. Sturdy, content with few comforts, the farmers have been the backbone of China through the ages. It is recorded that a number of Chinese leaders have come up from the peasant class, a wonderful commentary upon the democratic process at work in an autocratic framework.

Chinese government has never been closely organized. The theory has been to have the least amont of government possible. Taxes or tribute went to the throne. After that was received the throne did not interfere, except as appealed to for judgments on matters of justice. Local government was carried on through headmen by the retention of a portion of the taxes levied. For the mass of people little evidence of government existed. However, some used politics as a career and there existed the system of classical examinations to determine fitness for civil service. Probably some of the cleverest politicians and statesmen have come from China. Possibly China, as a political unit, would have disappeared ere this but for the astuteness of her statesmen.

In passing it is interesting to note that about 1100 A.D. a gentleman by the name of Wang An-Shih, a scholar and social philosopher, was called to high office to extricate the ruler, Shen Tsung, from overwhelming difficulties. Based upon his philosophy of justice for all, he put into effect (in the words of a modern Chinese historian) "1. The sytsem of State Advances to Farmers. Under this system any farmer in need of money for purposes of cultivation could obtain a loan from the government at 2% interest per month repayable at the time of harvest.

"2. The Income Tax. This tax was levied upon all classes of society and it was to take the place of the forced manual labor under the older laws.

"3. Nationalization of Commerce. By this law, depots for bartering and hypothecating goods on property were established throughout the Empire." (The Government bought when prices began to fall and sold when prices rose.) This has a strangely familiar sound and we hasten on to find that this New Deal was violently opposed by those who disagreed with his social doctrines and the tendency toward too much central power. However, Wang had the confidence of the ruler and was in power for eight years. At last a comet was observed and Wang's enemies claimed he was the cause, and he had to be dismissed. Later he was again in power but soon "the reforms of Wang An-Shih were superseded by better laws and his followers dismissed." His chief opponent, the historian, Ssu Ma-Kuang, took power and the New Deal was history. Not entirely, to be precise, for later Wang's memorial tablet was placed beside that of Confucius and a tablet to perpetuate the infamous names of his opponents was erected and called "The Traitor Pillar."

Chinese are also clever tradesmen and business men. We hear, "The word of a Chinese is as good as his bond." Personally, I think that is an excellent quotation, providing one knows the Chinese he is dealing with. Temptation is universal and there are crooks everywhere. However, on the whole, one can be certain of honest dealing and the opportunity to negotiate fairly. It is peculiar, perhaps, but there are few companies organized along the lines of our corporations. Industry and business is much more on a personal ownership, or at the most a limited partnership basis. There have been many "overseas" Chinese, living in business competition with other nationals. Almost uniformly these Chinese business men have prospered.

A number of Chinese have been listed among my friends. They have been congenial, sympathetic, and true. My impressions and conclusions of Chinese have undoubtedly been formed by my associations. Whether one forms his opinions from Bret Harte, Rudyard Kipling or Pearl Buck we are likely to temper them with the leavening influence of our personal friendships. I went "over the hill to see what I could see," and came back glad that I had been there.

THE CORNELL ENGINEER

PUBLISHED MONTHLY DURING THE COLLEGE YEAR

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EDITORIALS

The CORNELL ENGINEER takes great pleasure in announcing the election of the following Freshmen to the board. Editorial board: I. L. Bogert, C.E.; L. M. Genung, C.E.; W. T. Mills, M.E.; A. H. Pugh, M.E.; K. B. Sadler, M.E.; and J. G. Tammen, C.E. Business Board: W. C. Chandler, E.E.; R. M. Gifford, A.E.; R. W. H. Nagel, A.E., P. M. Price, M.E.; and P. G. Twitchell, M.E.

POLICY

It is with a great deal of eagerness that the 1937 CORNELL ENGINEER staff accepts the responsibility of publishing the organ of the Cornell Engineering School for the following year. The opportunity for which this group of men has been waiting is now here, and foolish indeed would we be should we not capitalize on it.

This staff is in a most unusual position in that it is the first group of men who have had a full year's experience on the board before taking over the reins. As a result, the policies of the staff are thoroughly inbred, and a magazine of a consistent policy will result. We will at all times strive to further the best interests of the College of Engineering at Cornell.

To carry out these plans, articles of interest to both the student body and the alumni will be presented. Notices and stories of happenings in and about the school will be featured, as well as notes on alumni activities. We believe that this is the most desirable combination of material to promote the policy of the CORNELL ENGINEER.

It is the desire of this staff in particular to develop an editorial section which will be truly representative of the opinion of the students. The fairest way to do this is to maintain an open column for letters from the students and alumni themselves. This will be done, and it is sincerely hoped that a hearty response will be found.

In conclusion, we again express our desire to publish an Engineer which will truly represent Cornell and be of interest to all of its subscribers.

—o—

CORNELL DAY

This spring, for the third consecutive year, Cornell University is sponsoring "Cornell Day," in the interest of young men of high school and prep school age who might be interested in coming here next year. The week-end of May 15 to 17 will be devoted to entertaining prospective Cornellians and introducing them to the various branches of the University.

As in the past, the colleges of Engineering will play a large part in this program. The electrical display, planned by members of the College of Electrical Engineering, is expected to be one of the most spectacular features of the occasion. Other highly interesting and instructive displays are planned by the colleges of Civil and Mechanical Engineering. These exhibitions will give an insight into the various branches of engineering in which instruction is offered at Cornell and will help demonstrate the scope of these courses.

Transportation of guests to Ithaca is being arranged by the various Alumni Associations, and living quarters will be provided by the fraternities on the campus, who will also arrange sight-seeing trips to points of interest, both on and off the campus. There will be no idle moments during this week-end, and from past experience it is known that this program will help many young men

who are at present indefinite in their choice of a college to decide on Cornell.

It is hoped that every local Cornellian and Alumnus will feel it his duty to interest as many young men as possible in Cornell Day, both as a help to the candidate in choosing his college, and as an aid to the University in securing good men to fill the ranks of those who leave us in June. Remember the date, May 15 to 17.

—o—

TAU BETA PI

Cornell University will be greatly honored next fall when it is to act as host to the annual Tau Beta Pi convention. The delegates plan to convene on October 8th, and the convention will last for three days.

Aside from the business sessions, inspection trips to the Morse Chain Works and the Salt Works have been planned. On the evening of the 9th, a ball is planned for the guests. The activities of the convention will be concluded with a banquet on the evening of the 10th.

Tau Beta Pi, the Phi Beta Kappa of engineering colleges, was organized in 1885 to bring together the outstanding engineering students of the various colleges and universities. Each year the individual chapters elect to membership a number of engineering students who are not only attaining high scholastic ratings, but are outstanding also in extra-curricular activities. At present, the society is composed of some 27,000 members representing 65 chapters, one of the most active of which is located here at Cornell.

—o—

THE CORNELL SOCIETY OF ENGINEERS

Graduating engineers are fortunate in being able to maintain contacts with their Alma Mater, their classmates, and their professions through the Cornell Society of Engineers. This society is composed solely of graduates of the Cornell College of Engineering and keeps associations with the schools through the medium of its official news organ, THE CORNELL ENGINEER. Men who have graduated and gone into the various engineering fields become associated with the society to keep abreast of the developments at Cornell as well as in their profession. The employment service which the society maintains has secured good positions for many engineers through the valuable contacts which are established within the organization.

Next year the Cornell Society of Engineers plans to expand from its present headquarters at the Cornell Club in New York City, and establish local centers in Milwaukee, Chicago, Baltimore, Detroit, Pittsburg, and other large cities. Each of the local societies will be presided over by a chairman, who will also be a vice-president of the national society. In this way constant contact will be maintained with the other local units of the society through the national headquarters.

On May 15, Mr. E. C. M. Stahl, President of the organization, will be on the hill for the purpose of speaking to the senior class. At this time he will be free to talk to men concerning the society, and it is strongly urged that the seniors avail themselves of the opportunity offered.

CORRESPONDENCE

A RACKET

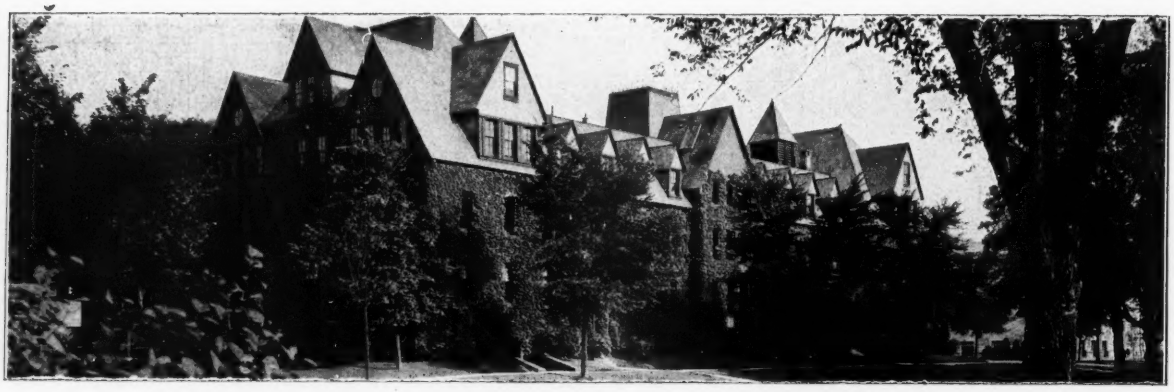
To the Editor:

An evil which has existed for a considerable period of time, without apparently anybody objecting very strenuously to it, is the tutoring racket. Perhaps the reason why there has been no interest aroused is that those who are affected by it are benefitted greatly, whereas no one else is affected by it at all.

There are several reasons why the tutoring business is an evil. In the first place, it places a premium on money and the ability to pay a tutor, rather than on industry and ability, in passing a course. The student who loafs and wastes his time all term has as good, or better, a chance of passing a course than the student who has plugged away at it all term, and who cannot afford to pay for tutoring. From another point of view, it seems that there is at least a reasonable ground for suspicion that it is not entirely by coincidence that the points which were particularly emphasized in the tutoring lectures also appeared on the examination. Although in the majority of cases such suspicions are probably without foundation, it is nevertheless true that there has in the past been collusion between those who know what is to appear on an examination and those who offer their services as tutors.

Insofar as the first of these evils is concerned, there is probably little that can be done about it. It would be futile to attempt to prevent a student who wanted to obtain outside help in preparing for an examination, and who was willing to pay for it, from getting it. It would, however, be of some help if a regulation were strictly enforced which would prevent members of the instructing staff from tutoring. Such a rule would not only tend to eliminate any unsavory cooperation between faculty and tutor which might exist, but it would also effectively cut down on the availability and effectiveness of tutoring. Naturally enough, faculty members make the best tutors, so that if they were prevented from tutoring, the quality of the tutoring available would quickly be decreased; and our wayward boys who now find it possible to pass with flying colors would soon discover that they had to do a goodly portion of their own work during the year, and that mere ability to pay would not be so effective in passing courses.

—A Senior



COLLEGE

DIEDERICHS APPOINTED NEW DEAN

President Livingston Farrand has announced the election of Professor Herman Diederichs as Dean of the College of Engineering to succeed Dean Dexter S. Kimball, who will retire on July 1. It was also announced that Professor S. C. Hollister will be Associate Dean of the College of Engineering, effective July 1, in addition to his regular duties as Director of the School of Civil Engineering.

—o—

SIGMA XI RESEARCH EXPOSITION

As the ENGINEER goes to press, the Cornell Chapter of Sigma Xi plans a research exposition on May 8 and 9, consisting of a preview of many significant scientific investigations now in progress at Cornell.

There will be some thirty-one exhibits ,three dealing with direct applications to engineering: A. V. Peterson, a graduate student, plans an exhibit on the "Photo-elastic Examination of Stresses"; H. L. Goodman, Instructor in Experimental Engineering, "The Structure of Metals"; and D. Ramadanoff, Instructor in Electrical Engineering, with R. R. Sprole, E.E. graduate student, "The Stroboscopic Effect with Rotating Neon Tubes," and "The Electrical Thermal Storage Demand Meter,"

This exposition is regarded by the local chapter as a forerunner of the national celebration which will be held on this campus in June, commemorating the fiftieth anniversary of the founding of Sigma Xi.

—o—

FAREWELL DINNER

Plans are now being completed for a dinner to be given in honor of the retiring Dean, Dexter Simpson Kimball, and the incoming Dean, Herman Diederichs. The dinner will be held in Willard Straight Hall on May 28. C. F. Hirshfeld, M.M.E. '05, will act as master of ceremonies, and it is hoped that Charles Kettering, head of the Research Department of General Motors, will be the speaker.

The arrangements are being made by the honorary engineering societies of the campus, and all the students and faculty are invited.

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ATMOS MEETING

At a regular meeting of Atmos, honorary mechanical engineering society, held Wednesday evening, March 29, the following officers were elected for the coming year: President, James R. Ware; Vice-president, Thomas R. Heyward, 3rd; Secretary and Treasurer, John J. Serrell, Jr.

Plans for Cornell Day were discussed. The society will lend its services for planning and carrying out the Cornell Day program. The society also plans to assist in the Spring Day celebration by taking charge of a concession.

To round out its program Atmos has planned a faculty softball game, to be held in the near future.

—o—

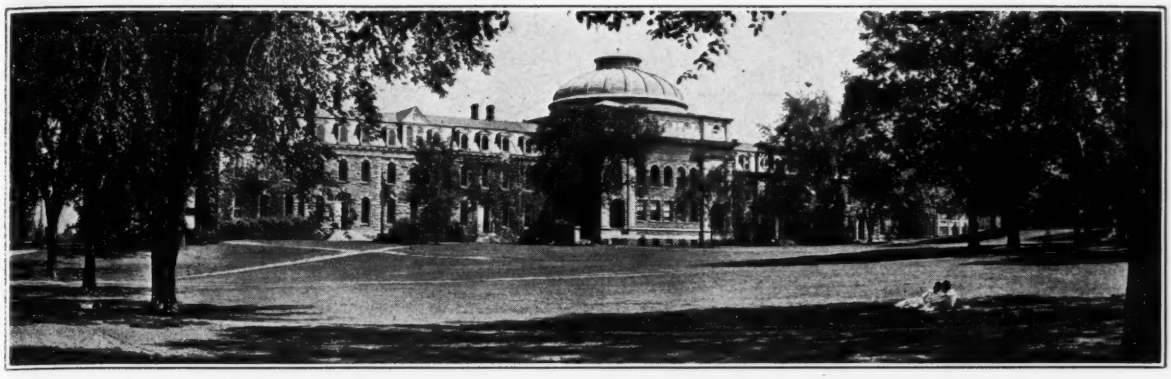
C.E. BASEBALL AND CREW

Latest reports from the battlefield indicate that the C.E. crew and baseball team are coming along fine and are expecting to beat all comers. The crew has got the jump on the other crews and has been practicing for some time. They are confident of emerging victorious in the great race with Ag., Arts, Forestry, and M.E. in the middle of May. The baseball team has already played three games, and it is as yet unbeaten. It won its first game from Chem. by forfeit, beat the Law school 4-2, and in its latest appearance won from the Hotel School 6-1.

—o—

A.S.M.E. MEETING

On Wednesday, April 22, the student branch of the American Society of Mechanical Engineers was given a very interesting talk by Maxwell Carson Maxwell on "The History and Romance of Locks and Their Manufacture". Mr. Maxwell, who is a Cornell Alumnus of



NOTES

the class of '00, is Assistant to the President of the Yale and Towne Manufacturing Company.

As the title indicates, the talk covered the history and principal developments of locks since their inception. Mr. Maxwell exhibited some remains as well as a working model of the oldest lock known, that which guarded the Holy Sepulchre for the first eight hundred years A.D. Many of the cheaper locks now on the market were discussed, and their causes of insecurity were pointed out. Later, in describing the modern Yale pin-tumbler lock, Mr. Maxwell pointed out that it is the pick resistance which is the measure of a lock, in that no lock, other than a combination, is absolutely pick-proof.

All points were driven home by use of diagrams and cut-away samples of the locks themselves, which were on display after the lecture.

—o—

The Faculty
of the
School of Civil Engineering
Cornell University
cordially invites
All Cornell Civil Engineers
To the Thirteenth Annual
Civil Engineers Breakfast
Alumni Day, Saturday, June 13, 1936
8-10:30 A. M.
Sibley Recreation Room

—o—

A.S.C.E. CONFERENCE

On May 9, members of local section and the student chapters of the A.S.C.E. gathered in Ithaca for an all-day conference. Delegates came from Buffalo, Rochester, Syracuse, and Ithaca sections; and from the student chapters of Clarkson, Syracuse, Union, Rensselaer, Lehigh, Penn State, and Bucknell.

A banquet was held in Risley Hall in the evening. John McManus '36 was toastmaster. President Snyder of the Ithaca section awarded the annual prize for the outstanding student in civil engineering at Cornell to John McManus '36. The principal speaker was Daniel M. Mead '84, president of the ASCE, who was introduced by Professor Hollister. President Mead's topic was "It's Up to You" in which he said that one of the surest ways to success for the young engineer was to analyze every possible method before making a plan and not to execute this plan until he was absolutely sure of himself.

—o—

C.E. SOCIETIES

Both Pyramid and Rod and Bob have recently held elections. L. A. Christensen, '37 was elected president of Rod and Bob. Assisting him are J. R. Wandling, '37 as treasurer, and P. T. Varlan, '37 as secretary.

The new president of Pyramid is K. B. Earnhardt, '37. Other officers elected by this society are J. T. Barton, '37 as vice-president, and Ed Palmer, '37 as secretary-treasurer.

L. Torregrosa, '36, J. G. Machemer, '37, and L. E. Macfadden, '38 were recently initiated into Rod and Bob.

ENGINEERS HONOR DEAN KIMBALL

The Cornell Society of Engineers announces a testimonial dinner to Dexter Simpson Kimball, retiring Dean of the College of Engineering, on Thursday, May 21, in the banquet room, Pennsylvania hotel, Seventh and Thirty-third Street, New York City. Advance reservations indicate that this will be one of the largest Cornell affairs to be held in recent years. Large numbers of people from out of town including Baltimore, Philadelphia, Boston, and Ithaca are making up tables. The dinner will be informal. Reservations should be sent at once to the Cornell Society of Engineers, care of Cornell Club, New York City. Dinner will be two dollars and seventy-five cents.

CORNELL SOCIETY of ENGINEERS

EDWARD C. M. STAHL '13, PRESIDENT

J. D. TULLER '09, VICE PRESIDENT — S. C. HOLLISTER, VICE PRESIDENT

EDWARD B. KIRBY '25, RECORDING SECRETARY — JOHN P. SYME '26, SECRETARY AND TREASURER

"The objects of this Society are to promote the Welfare of the College of Engineering at Cornell University, its graduates and former students and to establish a closer relationship between the college and the alumni."

President's Column

Fellow Engineers,

Sixteen years ago the first Dean of Engineering at Cornell was appointed. Dexter Simpson Kimball, a distinguished educator, engineer, and member of the faculty, was entrusted with the difficult task of combining three separate colleges into one, coördinating the curricula, maintaining the high standards of instruction and the traditions of the unified colleges, and above all of keeping Cornell in the lead in respect to engineering. His personality and inspiration which have endeared him to students, alumni, and friends, have influenced Cornell engineers for several college generations. The fruits of this affection will surround him in his retirement from administrative duties and will bring satisfaction to him during the coming years of enjoyment, years which he so richly deserves.

The present Cornell Society of Engineers, which came into being coincidentally with Professor Kimball's appointment as Dean and with which he has been actively and helpfully associated, acknowledges with affection the greatness of his personality and the vision displayed in his contributions to Cornell. During his administration a marked change has come over the general attitude toward the usefulness of the engineer in society. Dean Kimball's public utterances, his philosophy, and the changes in the curricula under his direction all testify that he has taken a leading part in awakening both the technician and the public to the wider social responsibility and significance of our profession. He introduced the first courses into any engineering curriculum calculated to give substance to the newer conception of the engineer. The significance of the originator of a new era grows with the passing of time. We shall find that our eminent counselor, friend, and leader, the first Dean of Engineering at Cornell, has left a lasting heritage not only to us who have partaken of his teaching but to the world at large. Cornell has been fortunate in the men who originated and shaped the destiny of her engineering college. We are proud of the prestige which these men and engineers have brought to our own college. Dean Kimball stands out among them!

Wisely and very happily Professor Diederichs has been chosen by President Farrand and the University Trustees to succeed Dean Kimball. As a graduate, professor, Director of the Sibley School of Mechanical Engineering, and in athletics he has had long association with Cornell. He is imbued with the high traditions of our college and looks forward with assurance and wide vision. To find within itself the means of growth testifies to the virility of the faculty and its determination to face the future undaunted.

With the ever growing burdens of administration, the position of Associate Dean has been created to free the Dean's energies for constructive leadership. Professor Hollister, for two years the Director of the School of Civil Engineering, has been appointed as Associate Dean in addition to his Directorship. This appontment is well deserved on a record of energetic and substantial accomplishment.

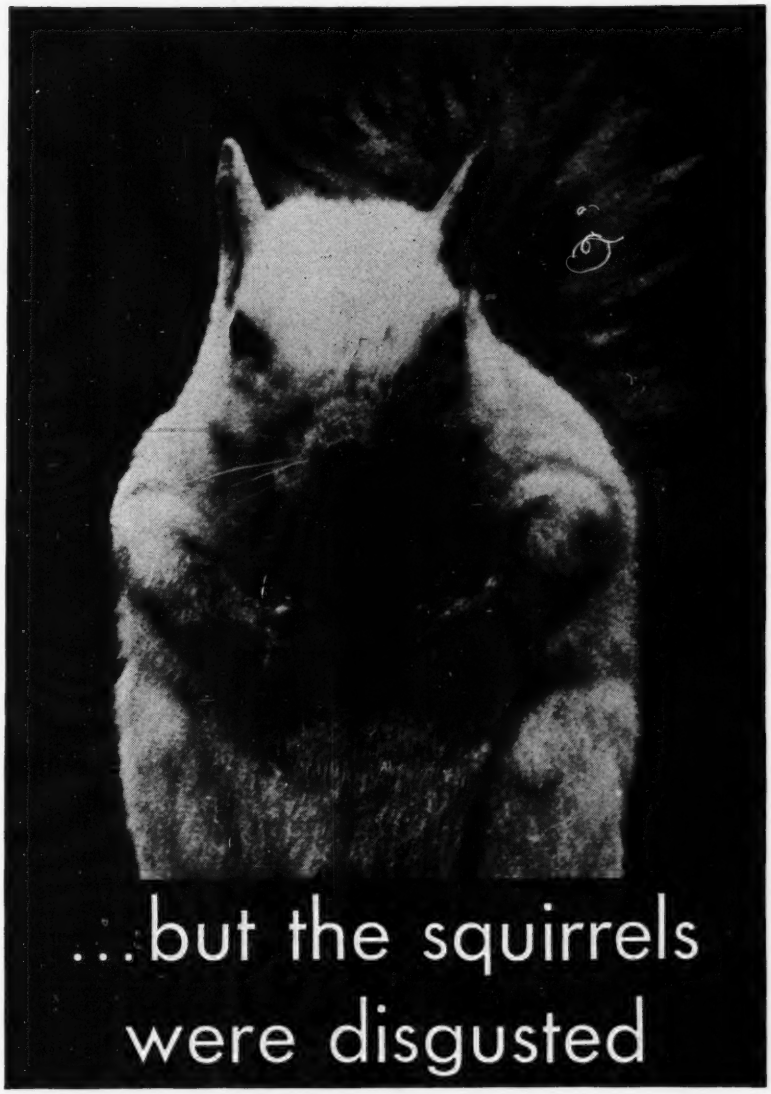
* * *

The Cornell Society of Engineers is a continuing evidence of alumni interest in the institution which gave it life. It is more and more becoming a necessary tie between the College of Engineering and the outside world. It guides suitable prospective students towards our college. It coöperates with the faculty in many useful ways. It offers advice and assistance to the younger graduates. It offers mutaual fellowship to all those ever associated with our college.

What finer tribute to your college and its faculty can there be than to join with the large body of alumni actively participating in the affairs of your society? For the Class of 1936 there is the added tribute to Dean Kimball and the assurance to the new administration that you will enthusiastically support it.

Sincerely,

EDWARD C. M. STAHL '13
President.



TELEPHONE engineers had to find a way to stop gray squirrels gnawing holes in the lead sheath of telephone cables. Even a tiny hole may let in moisture—short circuit the wires—and put a number of telephones out of service temporarily. ¶ Many ideas were tried, but the squirrels gnawed on. Finally the cables were painted with black asphaltum and sprinkled with sand. The gnawing stopped. ¶ Not a major engineering problem, to be sure. But thousands of strange *little* problems, too, have been solved in order to assure you the world's fastest and most reliable telephone service.

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ALUMNI NOTES

As we of the new regime of the CORNELL ENGINEER venture forth on our inaugural issue, may we again extend a sincere invitation to all sons of Cornell to communicate with this column, that we may present to our alumni as a whole those bits of information concerning fellow classmates that are no doubt so dear to all. News received second hand is dry and inaccurate. Let's coöperate and drop us a line at your earliest convenience.

'91 C.E.—Mr. Alan Cuddleback is vice-president and general manager of the Federal Water Service Corporation located at 27 Williams Street, New York City.

'94 C. E.—Edwin J. Fort has recently been appointed as engineer in charge of design for the sewage treatment work for the Department of Sanitation of New York City.

'97 C.E.—Benjamin E. Tilton is trustee of the New York State Railways, operating in Rochester, Syracuse and Utica. For free railroad passes (if any) he may be reached at 303 Gridley Building, Syracuse, N. Y.

'96 C.E.—Reginald H. Keyes is supervising engineer for the subway construction in New York City for the P.W.A.

'00 M.E. (E.E.)—Julian C. Smith of Montreal, Canada is president of the Shawinigan Water & Power Co. of that city.

'03 M.E.—John M. Ellis has been promoted from manager of sales for the New York district of the Bethlehem Steel Co. to general manager of sales. His office address is 25 Broadway, New York City.

'05 C.E.—Harry F. Porter is at present at work in the State Directors office in the Public Works Administration at Hartford, Conn.

'05 C.E.—W. S. Fitz-Randolph is water commissioner of Sloatsburg, N. Y. He is also a building contractor with offices at Tuxedo.

'07 M.E.—Lee E. Barrows, who has been with The Texas Company since 1909 is now manager of their producing department with headquarters at Houston, Texas.

'07 C.E.—Henry D. Darrow, who until recently was city engineer for the city of Kingston, has been appointed new Supt. of Water Works.

'08-'10 M.M.E.—George W. Lewis of the National Advisory Committee for Aeronautics, Washington, D. C., was recently elected vice-president of the Institute of Aeronautical Science in New York City.

'09 C.E.—Clinton Decker is one of the Birmingham Industrial Water Commission. This commission is in charge of the construction of a dam and reservoir and 40 miles of steel conduits, 42" to 60" in diameter.

'10 M.E.—Harold J. Flager is secretary of the One Hundred Per Cent Club of the International Business Machines Corp., of Harrisburg. Membership is based on outstanding achievement for that corp. during the year.

'10 M.E.—Jerome A. Fried is organizing the Ithaca Scientific Instrument Co. which is to manufacture laboratory apparatus in addition to doing research work. He expects the industry to be much assisted by the University's scientific and technical resources. His address is P. O. Box 555, Ithaca.

'11 M.E.; '95 Ph.D.; '94 M.E.; '04 M.E.—Lester W. W. Morrow '11, Dr. Clayton H. Sharp '95, Bancroft Gherardi '93, and Walter S. Finlay, Jr., '04 are members of a national committee for the creation of a living memorial to the genius of Thomas A. Edison through the endowment of educational and research scholarships.

'11 C.E.—Weston Gavett recently discussed Chemical Treatment of Sewage at a meeting of the New Jersey Sewage Works Association.

'12, '13 C.E.—Walter G. Distler is vice-president of the George A. Fuller Co. They recently completed the construction in Washington, D. C., of the Department of Justice building and the United States Supreme Court building, and the Archive building and are now working on the new Department of Interior building, and have just been awarded the contract for the Federal Reserve Bank building. They are also constructing the Cedar Central and Outhwaite Housing Projects in Cleveland, Ohio.

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THE SPORT SHOP

ALUMNI NOTES

'12 C.E.—Horace C. Flanigan of New York City has been elected president of the board of directors of the Book-Cadillac Properties, Inc. He is also vice-president of the Manufacturers Trust Co., and a member of the board of directors of the Dallas Hotel Co.

'12 M.E.; '13 M.E.—George B. Filbert and Alger D. Couch have recently joined together as manufacturer's agents. Their office is at 90 West Street, New York City. Filbert is the secretary of the recently-organized Cornell Club of Union County, N. J.

'15 C.E.—Seth G. Hess was recently appointed assistant state engineer-inspector of New York for the P.W.A. He was formerly resident engineer-inspector for the Federal Emergency Administration of Public Works.

'15 C.E.—Percy N. Daniels was in charge of the 1936 meeting of the New Jersey Sewage Works Association. He put on an interesting program in which aviation was the main topic.

'15 M.E.—John H. Newman is a partner in the newly formed firm of Faroll Brothers, silk brokers, located at 50 Broadway, New York City.

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STRESS and STRAIN

Man comes into this world without his consent and leaves it against his will. During his stay on this earth his time is spent in one continuous round of contraries and misunderstandings. In his infancy he is an angel; in his boyhood he is a devil; in his manhood he is everything from a lizard up; in his duties he is a damn fool; if he raises a family, he is a chump; if he raises a check, he is a thief, and the law raises hell with him; if he is a poor man, he is a poor manager and has no sense; if he is rich, he is dishonest, but considered smart; if he is in politics, he is a grafter and a crook; if he is out of politics, you can't place him as he is an "undesirable citizen"; if he goes to church, he is a hypocrite; if he stays away from church, he is a sinner; if he donates to foreign missions, he does it for show, if he doesn't, he is stingy and a "tight wad." When he first comes into the world, everybody wants to kiss him—before he goes out, they all want to kick him. If he dies young, there was a great future before him; if he lives to a ripe old age he is in the way, only living to save funeral expenses.

—o—

A story which was presented as the gospel truth, is told by a chap who spends his summers up north. Once he decided that he would start construction on an eight-room club-house, to be made out of hewn timber. Just as he started out, a rattler gave warning, and to stay on the safe side, the narrator jumped behind an oak tree. This was none too soon, for the fangs of the snake sunk into the tree, which shortly thereafter began to swell. In fact the oak grew to such proportions that when it was cut down there was enough timber to make the whole club-house out of the one tree. Now the night the construction was completed, a house warming was held, at which over a hundred people were present, everything going well. The next day, however, the sun came up, drawing the poison out of the wood, so that at the end of the day the structure had shrunk to such proportions that it was placed on the top of a pole and used as a bird-house thereafter.

—o—

The ENGINEER is very pleased to print the following, in that it was contributed by CDXXVII, one of the editors of "Sun" Berry Patch:

Subfrosh: Which is the way to Cornell?

Native: That's easy, just follow the bad roads.

—o—

After a rather serious accident the policeman was making an investigation.

"How did you knock him down?" he asked.

"I didn't" the poor motorist replied. "I slowed down to let him go across—and he fainted."

Attention Sub-Frosh

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ALUMNI NOTES

'17 C.E.—John DeWitt is a stock broker at 120 Broadway, New York City. He was formerly a partner in Dubosque, Dubosque, De Witt & Co.

'17 C.E.—Gabriel Lund has been appointed traveling inspector of New York for the P.W.A.

'17 C.E.—Thomas H. Prentice is an Instructor in Civil Engineering in the School of Technology at C.C. N.Y. He is also studying for a doctor's degree at Columbia, having received the degree of Master of Science last fall. His address is 501 W. 113th St., New York City.

'20 C.E.—Earl F. O'Brien has resumed his work with Glenn D. Holmes Consulting Engineer, of Syracuse after serving on P.W.A. work.

'21 C.E.—Anton A. Pregler is Structural Engineer, Housing Division, P.W.A., in Washington and acts as government consultant to private architects and consulting engineers on the design of low-cost apartment houses.

'23 M.E.—Mr. S. Ushieda was a recent visitor in Ithaca and on the Campus. He has been on a trip around the world, passing through Russia, Poland, Germany, Norway, Sweden, Denmark, Holland, Belgium, France, Switzerland, Italy, England, and the United States. Leaving Tokyo on October 15, 1935, he spent thirteen days crossing Siberia and Russia, where he reports a dollar is accepted for only one Russian ruble. Mr. Ushieda will arrive in Japan about May 15. At home he lives in a house of American style designed by two Cornell graduates in Architecture. He is employed as an engineer in a branch plant of the Mitzubishi Company and is engaged in the design of Diesel engines, mainly used at present in Japan for trucks and for boats.

'24 E.E.—Frank Rizzo, of Clinton Gilbert and Co., 120 Broadway, New York City, recently discussed "The Outlook of Bank Stocks for 1936" at a meeting of the American Statistical Association.

'25 M.E.—October 9, 1935, heralded the arrival, at the home of Mr. and Mrs. Henry A. Gerken, of a baby daughter, Louise Arnold. Congratulations, Hank, and we hope you don't have to walk the floor too much.

'32 E.E.—It seems that Cornell engineers have taken to rearing daughters. We have the pleasure of letting our readers know that Mr. and Mrs. Fred J. Finkenauer are the proud parents of a baby girl whom they have named Ann Louise. The Finkenauers are living at 155 Highland Ave., Highland Park, Mich., where Fred is employed as an engineer in the Chrysler Corporation.

'34 E.E.—John H. Stressen-Reuter formerly with the General Electric Co. at Chicago, is now with the Detroit Edison Co.

'28, '29 M.E.—Sidney E. Whiting, Jr., is in the production department of the National Bank Book Co., of Holyoke, Mass. In December, 1935 he was re-elected

for his second two-year term as alderman-at-large by the largest vote ever given an aldermanic candidate.

'26 C.E.—Irving M. Weinman is traveling engineer-inspector in New York State for the P.W.A.

'26 C.E.—W. B. Merritt is assistant engineer in the State Engineer Inspector's office, P.W.A., New York City.

'26 C.E.—M. A. Fishkin is assistant resident engineer inspector for the P.W.A. on War's Island sewerage projects, New York City.

'27 C.E.—Halstead N. Wilcox is a draftsman in the Bridges Dept. of the B. & O. Railroad at Baltimore. His address is 266 Ethan Allen Ave., Takoma Park, D. C.

'33 M.E.—H. F. Cox, Jr., is with the American Can Co. doing design work and working on the improvement of can making machinery. His home address is 106 Prospect St., Summit, N. J.

'33 M.E.—C. A. Elwood is with the Republic Steel Corp. in So. Chicago, Ill., improving the efficiency of steam generating units and reducing the losses in steam distribution. He has supervision of all lubricants used in the plant. He lives at 10718 Church St., Chicago.

'32 ME—'33 MME—Jackson Hazlewood is a salesman for the Proctor and Gamble Co., having recently resigned from the Shell Petroleum Corp. His address is 946 North Meridian Street, Indianapolis, Indiana.

ME '31—K. J. Flessel has just taken a position with J. T. Cantrell & Company, of Huntington, N. Y. His job is cost analysis and reduction of production costs. This firm builds suburban bodies for automobiles. Mr. Flessel's home address is 29 Park Place, Huntington, N. Y.

ME '31—T. M. Hamphill is engaged in design work on flying boats with the Consolidated Aircraft Corp. at San Diego, California. He lives at 3362 Trumbull St., Point Loma, California.

'33 M.E.—R. Hassel has a job with the Singer Manufacturing Co., Elizabethport, N. J. He is doing general engineering work, testing sewing machines and manufacturing equipment. His residence is at 1025 Madison Ave., Plainfield, N. J.

'33 M.E.—P. E. Kyle is an Instructor in Mechanical Engineering in charge of the Foundry Lab at M.I.T. His address is 4 Crawford St., Cambridge, Mass.

'33 M.E.—R. S. Lane is working in the Engineering Dept. of the Ross Heater & Mfg. Co., Buffalo designing heat exchange equipment. His address is 27 E. Morris Ave., Buffalo.

'33 M.E.—W. F. Maddox is at work on production control work for the Oxweld Acetylene Co., Newark.

'33 M.E.—Andrew Pinkerton, Jr., is working in experimental mechanical engineering at the Columbia Chemical Division of the Pittsburgh Plate Glass Co. at Barberton, Ohio.

'33 M.E.—F. W. Spooner is working at sales engineering with regard to lubricants for industrial plants for the Shell Petroleum Corp., Indianapolis. He lives at 946 N. Meridian St., Indianapolis.

PROFESSIONAL NOTICES and ANNOUNCEMENTS

A page of notices and announcements of Cornell Alumni will appear each month starting next fall.

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G-E *Campus News*

"DON'T TALK BACK"

YOU can't argue with an officer. One G-E engineer learned the truth of this modern proverb when he was detained by Panama Canal authorities and the radio tubes he carried were impounded. The officers were convinced that the unfamiliar objects were bombs. And when an officer has made up his mind, that settles it. The tubes were carted away.

Some years ago, I. R. Weir, of the General Electric Radio Engineering Department, was en route to Tegucigalpa, capital of Honduras, Central America, to install a radio transmitter. He carried with him two of the first large, part-metal radio transmitting tubes which had been developed by General Electric.

"Upon arriving at the Panama Canal," he relates, "I was surprised to find that I was detained for investigation on suspicion of carrying bombs. After much argument it was decided that I should have to leave my radio vacuum tubes in the ammunition dump during my stay in the Canal Zone."

CLEAN DIRT

SOAP and water will still be needed to clean Junior's face and hands, but if Junior's father is a florist he will welcome this clean dirt.

Florists and specialty growers wage a never-ending battle against weeds, insects, and plant parasites which flourish in greenhouse soil. But reinforcements have arrived. Clean dirt may now be economically obtained by means of electric equipment developed by General Electric scientists.

Electric heating units, arranged in a wooden bin, heat a quantity of soil to a temperature of 160-180 F. Heating sterilizes the soil by a process which resembles the pasteurization of milk, and weed seeds, insects, and fungi which are dormant in the soil are killed during the sterilization process. In the resulting germless dirt, plants can attain a vigorous, uniform growth, free from the competition of weeds and the inroads of other plant enemies.

"AH, WATSON, AN INDUSTRIAL CRIME"

THE "corpus delicti"—a broken resistance wire; the suspect—a defect in the wire; the detective—a microchemist. With microscope and analytical apparatus of incredibly small dimensions this industrial superdetective finds tiny crystals of sulphate near the break. The trail leads to a nearby furnace giving off sulphurous fumes. Thus the wire is cleared of suspicion of having been defective, and the criminal fumes are eliminated.

This analysis is typical of many industrial "micro-mysteries" that have been solved in the Research Laboratory of General Electric. A development from methods devised in the fields of biology and medicine, microchemistry has become an indispensable servant to industry, with accomplishments as great as the quantities with which it deals are small.

With thimble-sized beakers, and test tubes as small as 1/50 of an inch in diameter, the microchemist analyzes quantities of material 17,000 times lighter than a drop of water. He has defined a new unit of mass, the gamma, one millionth of a gram. A streak of dirt, a smudge, a minute pit mark—all these can be taken into the laboratory with a reasonable assurance that the microchemist will be able to provide the answer to the problem.

96-257DH

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